The.

PE DHB:vjs 08/01/06 3382-65134-01 555484.doc 300282.03

PATENT

AUG 0 7 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Thumpudi et al. Application No. 10/642,551

Filed: August 15, 2003 Confirmation No. 3854

For: QUANTIZATION AND INVERSE

QUANTIZATION FOR AUDIO

Examiner: Not yet assigned

Art Unit: 2641

Attorney Reference No. 3382-65134-01

CERTIFICATE OF MAILING

I hereby certify that this paper and the documents referred to as being attached or enclosed herewith are being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450 on the date shown below.

Attorney or Agent for Applicant(s)___

Date Mailed

INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 C.F.R. § 1.97(b)(3)

COMMISSIONER FOR PATENTS P.O. BOX 1450 ALEXANDRIA, VA 22313-1450

Listed on the accompanying form PTO-1449 and enclosed herewith are several English-language and non-English-language documents. The non-English language documents (portions of Zwicker et al., <u>Das Ohr als Nachrichtenempfanger</u> and Zwicker, <u>Psychoakustik</u>) relate to human auditory models. Applicants respectfully request that these documents be listed as references cited on the issued patent.

Copies of United States patents and United States published patent applications do not have to be provided to the Patent Office (37 C.F.R. 1.98(a)(2)(ii)). Copies of unpublished U.S. applications do not have to be provided, as long as the application is available on PAIR, as this requirement of 37 C.F.R. § 1.98(a)(2)(iii) has been waived by the United States Patent and

Trademark Office pursuant to the Official Gazette Notice on October 19, 2004 (1287 OG 163). Applicants will provide copies of such patents or applications upon request.

Applicants filed this Information Disclosure Statement ("IDS") before the mailing date of a first Office action on the merits. As a result, no fee should be required to file this IDS. However, if the Patent Office determines that a fee is required for Applicants to file this IDS, please charge any such fees, or credit overpayment, to Deposit Account No. 02-4550. A duplicate copy of this Information Disclosure Statement is enclosed.

The filing of this IDS shall not be construed to be an admission that the information cited in the statement is, or is considered to be, prior art or otherwise material to patentability as defined in 37 C.F.R. §1.56.

By

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

Registration No. 56,141

One World Trade Center, Suite 1600 121 S.W. Salmon Street Portland, Oregon 97204 Telephone: (503) 595-5300

Facsimile: (503) 595-5301

cc:

Client

Docketing

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

AUG 0 7 2006

Attorney Docket Number	3382-65134-01
Application Number	10/642,551
Filing Date	August 15, 2003
First Named Inventor	Thumpudi
Art Unit	2641
Examiner Name	Not yet assigned

U.S. PATENT DOCUMENTS

Copies of U.S. Patent documents do not need to be provided, unless requested by the Patent and Trademark Office. For patents, provide the patent number and the issue date. For published U.S. applications, provide the publication number and the publication date. For unpublished pending patent applications, provide the application number and the filing date.

Examiner's Initials*	Cite No. (optional)	Number	Issue Date	Name of Applicant or Patentee
		5,524,054	06-1996	Spille
		5,629,780	05-1997	Watson
•		5,661,823	08-1997	Yamauchi et al.
		5,682,152	10-1997	Wang et al.
		5,701,346	12-1997	Herre et al.
,		5,835,030	11-1998	Tsutsui et al.
		6,041,295	03-2000	Hinderks
-		6,064,954	05-2000	Cohen et al.
		6,249,614	06-2001	Kolesnik et al.
		6,445,739	09-2002	Shen et al.
	j	6,658,162	12-2003	Zeng et al.
		6,738,074	05-2004	Rao et al.
		7,062,445	06-2006	Kadatch

FOREIGN PATENT DOCUMENTS

Examiner's Initials*	Cite No. (optional)	Country	Number	Publication Date	Name of Applicant or Patentee
		Europe	EP0597649	05-1994	Suzuki
		Europe	EP0669724	08-1995	Akagiri
		WIPO	WO 99/43110	08-1999	Absar et al.

	EXAMINER	DATE
1	SIGNATURE:	CONSIDERED:
١		

^{*} Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT
BY APPLICANT
AUG 0 7 2006

Attorney Docket Number	3382-65134-01
Application Number	10/642,551
Filing Date	August 15, 2003
First Named Inventor	Thumpudi
Art Unit	2641
Examiner Name	Not yet assigned

Examiner's Initials*	Cite No. (optional)	OTHER DOCUMENTS
		Advanced Television Systems Committee, ATSC Standard: Digital Audio Compression (AC-3), Revision A, 140 pp. (1995).
		Beerends, "Audio Quality Determination Based on Perceptual Measurement Techniques,"
		Applications of Digital Signal Processing to Audio and Acoustics, Chapter 1, Ed. Mark
		Kahrs, Karlheinz Brandenburg, Kluwer Acad. Publ., pp. 1-38 (1998).
		Bosi et al., "ISO/IEC MPEG-2 Advanced Audio Coding," Journal of the Audio
		Engineering Society, Audio Engineering Society, Vol. 45, No. 10, pages 789-812 (1997).
		Caetano et al., "Rate Control Strategy for Embedded Wavelet Video Coders," Electronics
		Letters, pp. 1815-17 (October 14, 1999).
		De Luca, "AN1090 Application Note: STA013 MPEG 2.5 Layer III Source Decoder,"
		STMicroelectronics, 17 pp. (1999).
		de Queiroz et al., "Time-Varying Lapped Transforms and Wavelet Packets," IEEE
		Transactions on Signal Processing, Vol. 41, pp. 3293-3305 (1993).
		Dolby Laboratories, "AAC Technology," 4 pp. [Downloaded from the web site aac-
		audio.com on World Wide Web on November 21, 2001.]
		Fraunhofer-Gesellschaft, "MPEG Audio Layer-3," 4 pp. [Downloaded from the World
		Wide Web on October 24, 2001.]
		Fraunhofer-Gesellschaft, "MPEG-2 AAC," 3 pp. [Downloaded from the World Wide
		Web on October 24, 2001.]
		ISO/IEC 13818-7, Information technology - Generic coding of moving pictures and
		associated audio information - Part 7: Advanced Audio Coding (AAC), 150 pp. (1997).
		ITU, Recommendation ITU-R BS 1387, Method for Objective Measurements of
		Perceived Audio Quality, 89 pp. (1998).
		Kondoz, Digital Speech: Coding for Low Bit Rate Communications Systems, "Chapter
		3.3: Linear Predictive Modeling of Speech Signals" and "Chapter 4: LPC Parameter
		Quantisation Using LSFs," John Wiley & Sons, pp. 42-53 and 79-97 (1994).
		Malvar, "Biorthogonal and Nonuniform Lapped Transforms for Transform Coding with
		Reduced Blocking and Ringing Artifacts," appeared in IEEE Transactions on Signal
		Processing, Special Issue on Multirate Systems, Filter Banks, Wavelets, and Applications,
		vol. 46, 29 pp. (1998).
		Malvar, "Lapped Transforms for Efficient Transform/Subband Coding," IEEE
		Transactions on Acoustics, Speech and Signal Processing, Volume 38, No. 6, pp. 969-78 (1990).
		Malvar, "Signal Processing with Lapped Transforms," Artech House, Norwood, MA, pp.
		iv, vii-xi, 175-218, and 353-57 (1992).

EXAMINER	DATE
SIGNATURE:	CONSIDERED:

^{*} Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT AUG 0 7 2006

Attorney Docket Number	3382-65134-01
Application Number	10/642,551
Filing Date	August 15, 2003
First Named Inventor	Thumpudi
Art Unit	2641
Examiner Name	Not yet assigned

Examiner's Initials*	Cite No. (optional)	OTHER DOCUMENTS
		OPTICOM GmbH, "Objective Perceptual Measurement," 14 pp. [Downloaded from the World Wide Web on October 24, 2001.]
		Phamdo, "Speech Compression," 13 pp. [Downloaded from the World Wide Web on November 25, 2001.]
		Ribas Corbera et al., "Rate Control in DCT Video Coding for Low-Delay
		Communications," IEEE Transactions on Circuits and Systems for Video Technology, Vol. 9, No. 1, pp. 172-85 (February 1999).
		Search Report for European Patent Application No. 03 020 110.7.
		Search Report for European Patent Application No. 03 020 111.5.
		Shlien, "The Modulated Lapped Transform, Its Time-Varying Forms, and Its Application to Audio Coding Standards," IEEE Transactions on Speech and Audio Processing, Vol. 5, No. 4, pp. 359-66 (July 1997).
		Srinivasan et al., "High-Quality Audio Compression Using an Adaptive Wavelet Packet Decomposition and Psychoacoustic Modeling," IEEE Transactions on Signal Processing, Vol. 46, No. 4, pp. 1085-93 (April 1998).
		Terhardt, "Calculating Virtual Pitch," Hearing Research, 1:155-182 (1979).
		Wragg et al., "An Optimised Software Solution for an ARM PoweredTM MP3 Decoder," 9 pp. [Downloaded from the World Wide Web on October 27, 2001.]
		Zwicker, Psychoakustik, Title Page, Table of Contents, "Teil I: Einfuhrung," Index, Springer-Verlag, Berlin Heidelberg, New York, pp. II, IX-XI, 1-30, and 157-162 (1982).
		Zwicker et al., Das Ohr als Nachrichtenempfänger, Title Page, Table of Contents, "I: Schallschwingungen," Index, Hirzel-Verlag, Stuttgart, pp. III, IX-XI, 1-26, and 231-32 (1967).

EXAMINER SIGNATURE:	DATE CONSIDERED:

^{*} Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.